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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
17901A HONEST JOHN, MISSILE NUMBERS 197 (AD), 217 (AK) AND 241 --ETC(U)  
JUN 78

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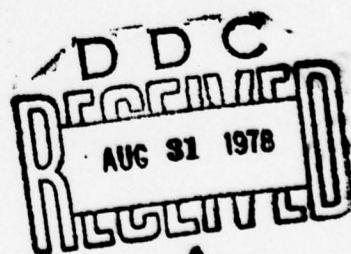
17901A HONEST JOHN  
MISSILE NOS. 197 (AD), 217 (AK), & 241 (BC)  
ROUND NOS. UNKNOWN  
(23 MAY 1978)

BY

WSMR METEOROLOGICAL TEAM

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

.....  
**ECOM**  
UNITED STATES ARMY ELECTRONICS COMMAND



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## INTRODUCTION

17901A Honest John, Missile Numbers 197 (AD), 217 (AK), and 241 (BC), Round Numbers UNKNOWN, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1155 (AD), 1140 (AK), and 1530 (BC) HRS MDT, 23 May 1978. The scheduled launch times were 0900 (AD), 1130 (AK), and 1530 (BC) HRS MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,987	FEET/MSL
PRESSURE	876.0	MBS
TEMPERATURE	31.5	°C
RELATIVE HUMIDITY	15	%
DEW POINT	1.2	°C
DENSITY	995.4	GM/M <sup>3</sup>
WIND SPEED	06	MPH
WIND DIRECTION	150	DEGREES
CLOUD COVER	1 1	Ac Cs

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33,  
1150 HRS MDT/23 MAY 1978  
MISSILE NUMBER 197 (AD)

ELEVATION	3,987	FEET/MSL
PRESSURE	876.1	MBS
TEMPERATURE	30.5	°C
RELATIVE HUMIDITY	15	%
DEW POINT	1.4	°C
DENSITY	998.8	GM/M <sup>3</sup>
WIND SPEED	08	MPH
WIND DIRECTION	150	DEGREES
CLOUD COVER	1 1	Ac Cs

TABLE II. SURFACE OBSERVATIONS TAKEN AT LC-33  
 1140 HRS MDT/23 MAY 1978  
 MISSILE NUMBER 217 (AK)

ELEVATION	3,987	FEET/MSL
PRESSURE	873.5	MBS
TEMPERATURE	33.1	°C
RELATIVE HUMIDITY	12	%
DEW POINT	-0.3	°C
DENSITY	987.4	GM/M <sup>3</sup>
WIND SPEED	10	MPH
WIND DIRECTION	240	DEGREES
CLOUD COVER	1 1	Cb Cc

TABLE III. SURFACE OBSERVATIONS TAKEN AT LC-33,  
1530 HRS MDT/23 MAY 1978  
MISSILE NUMBER 241 (BC)

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	170	8.0	2100	165	18.5
100	177	9.5	2200	164	20.0
200	183	10.5	2300	170	17.5
300	193	12.0	2400	175	15.0
400	202	13.5	2500	177	15.0
500	196	14.5	2600	178	15.0
600	190	15.5	2700	174	16.0
700	197	13.5	2800	169	17.0
800	204	11.0	2900	176	16.5
900	200	12.5	3000	182	16.0
1000	195	14.0	3100	188	14.0
1100	188	15.0	3200	193	12.0
1200	180	15.5	3300	190	12.5
1300	177	15.0	3400	186	13.0
1400	174	14.0	3500	184	12.0
1500	167	15.0	3600	181	11.0
1600	159	16.0	3700	184	9.5
1700	158	16.5	3800	187	8.0
1800	156	17.0	3900	183	7.0
1900	161	17.0	4000	179	6.0
2000	165	17.0	4100	183	5.5

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM LC-33  
1156 HRS MDT/23 MAY 1978  
17901A HONEST JOHN, MISSILE NUMBER 197 (AD), ROUND NUMBER UNK

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,302.67      Y = 185,283.13      Z = 3,989.47

APPROXIMATELY: 0.5 MILES SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	187	5.0	6600	196	9.0
4300	202	4.5	6700	196	9.5
4400	216	4.0	6800	195	9.5
4500	209	4.0	6900	199	9.5
4600	201	4.0	7000	203	9.0
4700	217	4.5	7100	198	9.0
4800	232	5.0	7200	193	8.5
4900	226	5.5	7300	187	9.0
5000	220	5.5	7400	181	9.5
5100	230	5.0	7500	174	11.0
5200	239	4.5	7600	167	12.0
5300	240	5.0	7700	165	13.0
5400	241	5.0	7800	162	14.0
5500	240	5.0	7900	162	14.5
5600	239	5.0	8000	161	15.0
5700	229	6.0	8100	161	15.0
5800	219	6.5	8200	160	15.0
5900	219	6.5	8300	162	16.0
6000	219	6.5	8400	164	16.5
6100	205	6.5	8500	164	17.0
6200	191	6.5	8600	164	17.0
6300	194	7.5	8700	164	18.5
6400	196	8.0	8800	163	19.5
6500	196	8.5	8900	163	21.5

TABLE IV. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	163	23.0
9100	167	24.0
9200	170	24.5
9300	170	25.5
9400	169	26.0
9500	173	26.5
9600	176	26.5
9700	180	26.5
9800	183	26.5
9900	185	26.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
10000	187	26.0
10100	190	26.0
10200	192	26.0
10300	192	25.5
10400	192	25.5
10500	191	24.5
10600	190	23.5
10700	190	24.0
10800	189	24.0

TABLE IV. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	150	8.0	1800	175	17.5
100	159	9.5	1900	173	18.0
200	167	10.5	2000	170	18.5
300	090	11.5	2100	175	18.5
400	012	12.0	2200	179	18.5
500	094	15.5	2300	180	19.0
600	175	18.5	2400	181	19.5
700	173	17.0	2500	186	18.5
800	171	15.5	2600	191	17.0
900	177	14.0	2700	193	15.5
1000	182	12.5	2800	195	14.0
1100	189	13.5	2900	196	16.0
1200	195	14.5	3000	196	18.0
1300	193	15.5	3100	196	18.0
1400	190	16.5	3200	196	17.5
1500	189	17.5	3300	200	17.0
1600	188	18.0	3400	203	16.5
1700	182	18.0	3500	201	17.0

TABLE V. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM LC-33  
1140 HRS MDT/23 MAY 1978  
17901A HONEST JOHN, MISSILE NO. 217 (AK), ROUND NO. UNK

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,802.67      Y = 185,283.13      Z = 3,989.47

APPROXIMATELY: 0.5 MILES SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
3600	199	17.0
3700	197	16.0
3800	195	14.5
3900	187	15.5
4000	179	16.5
4100	178	15.5
4200	176	14.5
4300	183	12.0
4400	189	9.5
4500	203	7.0
4600	217	4.5

TABLE V. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	240	10.0	2100	189	21.0
100	324	8.5	2200	187	19.0
200	048	6.5	2300	188	19.0
300	118	9.5	2400	189	19.0
400	188	12.0	2500	194	21.0
500	193	14.0	2600	198	23.0
600	197	16.0	2700	194	22.0
700	194	16.5	2800	189	21.0
800	191	17.0	2900	195	21.5
900	192	20.0	3000	200	21.5
1000	192	22.5	3100	196	21.0
1100	191	22.5	3200	192	20.0
1200	189	22.5	3300	187	18.0
1300	184	23.0	3400	182	15.5
1400	179	23.5	3500	186	16.0
1500	184	22.5	3600	189	16.5
1600	189	21.0	3700	190	18.5
1700	187	21.0	3800	190	20.5
1800	185	21.0	3900	191	21.5
1900	188	22.0	4000	192	22.5
2000	191	23.0	4100	194	22.5

TABLE VI. PILOT-BALLOON-MEASURED WIND DATA, RELEASED FROM LC-33  
1530 HRS MDT/23 MAY 1978  
17901A HONEST JOHN, MISSILE NO. 241 (BG), ROUND NO. UNK

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,302.67 Y = 185,283.13 Z = 3,989.47

APPROXIMATELY: 1 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	196	22.0	6600	197	19.0
4300	193	21.5	6700	198	24.0
4400	189	21.0	6800	199	28.5
4500	196	20.5	6900	201	31.0
4600	203	20.0	7000	203	33.0
4700	202	21.0	7100	207	32.0
4800	200	21.5	7200	210	31.0
4900	195	21.0	7300	207	26.5
5000	190	20.0	7400	204	21.5
5100	197	21.0	7500	204	20.5
5200	204	21.5	7600	204	19.5
5300	202	22.0	7700	197	22.0
5400	199	22.5	7800	190	24.0
5500	197	22.5	7900	188	23.5
5600	195	22.5	8000	186	23.0
5700	201	22.0	8100	190	20.5
5800	207	21.5	8200	194	17.5
5900	203	20.5	8300	201	22.0
6000	199	19.5	8400	208	26.0
6100	205	20.5	8500	202	25.5
6200	210	21.0	8600	195	25.0
6300	198	22.5	8700	195	25.5
6400	186	23.5	8800	194	26.0
6500	195	21.5	8900	204	25.0

TABLE VI. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	204	24.0
9100	209	25.5
9200	204	27.0
9300	201	27.5
9400	198	28.0
9500	197	28.5
9600	195	28.5
9700	199	31.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9800	202	33.0
9900	206	33.0
10000	209	33.0
10100	209	33.5
10200	208	34.0
10300	208	34.5
10400	207	34.5
10500	209	35.5

TABLE VI. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	DIR DEG	SPEED (MPH)
-120	155	16.0
-110	168	16.0
-100	162	16.5
-90	151	16.0
-80	165	17.5
-70	152	20.5
-60	152	17.5
-50	172	17.5
-40	165	13.0
-30	165	17.0
-20	182	14.0
-10	176	15.5
-00	182	12.0
+10	176	14.5
+20	161	13.5
+30	177	12.0

TABLE VII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, LEVEL NO. 1  
 LAUNCHED FROM LC-33, 1156 HRS MDT/23 MAY 1978  
 17901A HONEST JOHN, MISSILE NO. 197 (AD), ROUND NO. UNK

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	DIR DEG	SPEED (MPH)	T-TIME (SEC)	DIR DEG	SPEED (MPH)
-300	149	13.0	-130	165	15.0
-290	150	13.5	-120	160	17.0
-280	136	16.0	-110	165	16.5
-270	137	13.0	-100	150	14.0
-260	150	15.0	-90	163	12.0
-250	150	16.5	-80	175	16.0
-240	141	12.0	-70	148	16.0
-230	143	12.0	-60	160	15.5
-220	154	14.0	-50	167	15.0
-210	165	15.5	-40	165	16.5
-200	153	19.0	-30	165	16.5
-190	165	18.5	-20	163	17.0
-180	180	19.5	-10	165	19.0
-170	178	16.0	-00	164	16.0
-160	165	18.5	+10	172	17.0
-150	177	21.0	+20	174	16.0
-140	164	18.0	+30	180	14.5

TABLE VIII. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, LEVEL NO. 1  
LAUNCHED FROM LC-33, 1140 HRS MDT/23 MAY 1978  
17901A HONEST JOHN, MISSILE NO. 217 (AK), ROUND NO. UNK

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	DIR DEG	SPEED (MPH)	T-TIME (SEC)	DIR DEG	SPEED (MPH)
-300	193	5.0	-130	198	4.0
-290	204	6.0	-120	184	7.0
-280	193	6.0	-110	180	9.5
-270	195	4.0	-100	193	12.0
-260	220	4.0	-90	180	8.0
-250	178	5.5	-80	194	4.5
-240	188	5.5	-70	222	4.0
-230	199	3.0	-60	242	6.5
-220	227	8.0	-50	223	12.5
-210	239	13.0	-40	221	8.5
-200	215	11.5	-30	213	8.5
-190	198	9.5	-20	197	7.0
-180	180	10.0	-10	199	6.5
-170	193	7.0	-00	197	6.0
-160	195	7.0	+10	188	5.5
-150	200	9.0	+20	180	10.0
-140	195	8.0	+30	199	8.0

TABLE IX. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, LEVEL NO. 1  
LAUNCHED FROM LC-33, 1530 HRS MDT/23 MAY 1978  
17901A HONEST JOHN, MISSILE NO. 241 (BC), ROUND NO. UNK

WSTM COORDINATES: X = 484,982.64 Y = 185,957.73 Z = 3,983.00

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 0900 HRS MDT  
 ASCENS. 1.0. 321

SIGNIFICANT LEVEL DATA  
 1430020321  
 WHITE SANDS  
 TABLE X.

GEODETIC COORDINATES  
 32°40'43" LAT DEG  
 106°37'33" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
877.0	3969.0	24.6	36.0
850.0	4864.6	22.0	34.0
833.3	5449.1	20.9	33.0
823.3	5791.7	20.9	21.0
763.8	7901.6	16.3	19.0
700.0	10310.6	10.5	20.0
626.3	13312.3	3.0	34.0
623.1	13448.6	2.8	45.0
609.8	14061.9	1.7	50.0
-544.3	16992.3	-6.0	53.0
541.3	17134.6	-6.6	49.0
519.8	18170.8	-9.4	52.0
500.0	19153.7	-11.9	47.0
490.8	19640.7	-12.6	16.0
469.3	20745.3	-12.6	32.5
446.8	21973.8	-14.8	34.9
400.0	24690.6	-22.0	24.0
367.3	26731.7	-27.8	33.0
341.8	28418.9	-32.1	45.4
317.3	30131.3	-36.7	47.6
311.8	30529.1	-37.7	49.7
300.0	31440.6	-40.1	27.0
284.3	32602.3	-42.6	
274.3	33397.7	-43.1	
250.0	35435.6	-47.7	
200.0	40173.8	-58.5	
179.9	42344.9	-63.1	
173.2	43104.3	-62.3	
169.3	43504.1	-58.3	
165.3	44001.1	-57.5	

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 78 0900 HRS MDT  
ASCENSION 1.0. 321

SIGNIFICANT LEVEL DATA  
1430020321  
WHITE SANDS  
TABLE X. (CONT)

GEODETIC COORDINATES  
32°40'43" LAT DEG  
106°37'33" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
157.3	45122.7	-53.9	
153.3	45608.4	-53.6	
150.0	46102.1	-51.4	
146.3	46670.6	-48.4	
123.8	50234.6	-56.0	
116.3	51545.5	-56.1	
100.0	54657.3	-63.7	
91.3	56462.9	-67.6	
74.9	60400.7	-69.4	
-70.0	61741.7	-67.0	
62.8	63943.9	-63.6	
50.0	68570.8	-61.3	
45.8	70378.8	-59.2	
39.3	73580.2	-55.0	
30.0	79306.5	-53.4	
20.0	88054.2	-47.7	
16.3	92571.6	-43.2	
11.2	100959.8	-42.4	
10.0	103512.6	-39.9	

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 76 0900 HRS MDT  
ASCENSION NO. 321

UPPER AIR DATA  
1430020321  
WHITE SANDS  
TABLE XI.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	877.0	24.6	8.5	36.0	1021.2	673.9	180.0	12.0	1.000275
4000.0	876.7	24.6	8.5	36.0	1020.9	673.8	180.2	12.1	1.000275
4500.0	861.5	23.1	6.8	34.9	1008.6	672.0	189.4	13.3	1.000267
5000.0	846.6	21.8	5.1	33.8	996.0	670.4	196.8	14.9	1.000260
5500.0	831.8	20.9	3.3	31.2	982.0	669.2	202.6	16.6	1.000253
6000.0	817.2	20.4	-2.7	20.8	967.4	668.3	207.6	18.2	1.000238
6500.0	802.8	19.4	-3.9	20.3	954.1	667.0	212.5	15.4	1.000233
7000.0	788.7	18.3	-5.1	19.9	940.9	665.7	219.3	12.8	1.000228
7500.0	774.8	17.2	-6.4	19.4	928.0	664.4	226.6	10.8	1.000224
8000.0	761.1	16.1	-7.5	19.0	915.2	663.1	233.5	9.6	1.000220
8500.0	747.4	14.9	-8.4	19.2	902.6	661.7	231.6	9.7	1.000216
9000.0	734.0	13.7	-9.2	19.5	890.2	660.3	229.5	9.6	1.000212
9500.0	720.8	12.5	-10.1	19.7	876.0	658.9	226.2	8.9	1.000209
10000.0	707.9	11.2	-10.9	19.9	865.9	657.5	219.4	8.2	1.000205
10500.0	695.1	10.0	-11.3	20.9	853.9	656.0	202.5	8.2	1.000202
11000.0	682.3	8.8	-11.1	23.2	841.9	654.6	186.5	8.9	1.000200
11500.0	669.8	7.5	-10.9	25.5	830.1	653.2	172.4	11.0	1.000198
12000.0	657.5	6.3	-10.9	27.9	818.5	651.7	163.3	13.7	1.000195
12500.0	645.4	5.0	-11.0	30.2	807.0	650.3	157.3	15.4	1.000193
13000.0	633.6	3.8	-11.2	32.5	795.8	648.8	152.5	17.1	1.000190
13500.0	621.9	2.7	-7.9	45.4	783.8	647.7	152.1	17.8	1.000188
14000.0	610.3	1.7	-7.6	49.8	771.6	646.6	154.2	17.6	1.000189
14500.0	598.7	.5	-8.6	50.5	760.8	645.1	158.1	17.1	1.000186
15000.0	587.4	-8	-9.7	51.0	750.0	643.5	164.2	16.4	1.000182
15500.0	576.3	-2.1	-10.8	51.5	739.4	641.9	169.0	16.4	1.000179
16000.0	565.4	-3.4	-11.8	52.0	729.0	640.3	172.4	16.8	1.000175
16500.0	554.6	-4.7	-12.9	52.5	718.7	638.8	178.3	17.0	1.000172
17000.0	544.1	-6.0	-14.1	52.8	708.6	637.2	185.9	17.2	1.000169
17500.0	533.6	-7.6	-16.2	50.1	699.1	635.2	196.3	17.9	1.000165
18000.0	523.3	-8.9	-17.1	51.5	689.2	633.6	206.8	19.2	1.000162

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 78 0900 HRS MDT  
ASCENSION .0.

UPPER AIR DATA  
1430020321  
WHITE SANDS  
TABLE XI. (CONT.)

GEOGRAPHIC COORDINATES  
32°40.043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
18500.0	513.1	-10.2	-18.6	50.3	679.1	632.0	216.7	21.9	1.000159
19000.0	503.0	-11.5	-20.3	47.6	669.2	630.4	224.4	25.3	1.000156
19500.0	493.2	-12.4	-28.7	24.0	656.6	629.2	230.0	25.8	1.000150
20000.0	483.4	-12.6	-32.9	16.3	646.2	628.9	235.0	25.9	1.000146
20500.0	473.9	-12.6	-32.6	16.8	633.4	628.9	238.0	22.6	1.000143
21000.0	464.5	-13.1	-33.0	16.8	622.0	628.4	240.0	20.1	1.000141
21500.0	455.3	-14.0	-34.0	16.4	611.8	627.3	238.0	19.3	1.000138
22000.0	446.3	-14.9	-34.9	16.1	601.8	626.2	236.5	19.3	1.000136
22500.0	437.3	-16.2	-35.2	17.5	592.7	624.0	236.4	20.6	1.000134
23000.0	428.5	-17.5	-35.5	19.0	583.8	623.0	236.6	21.4	1.000132
23500.0	419.9	-18.8	-35.9	20.5	575.0	621.3	237.5	21.2	1.000130
24000.0	411.4	-20.2	-36.3	22.0	566.4	619.7	237.5	20.8	1.000128
24500.0	403.1	-21.5	-36.8	23.4	557.9	618.1	234.9	20.0	1.000126
25000.0	394.9	-22.9	-37.2	25.4	549.5	616.4	232.2	19.2	1.000124
25500.0	386.7	-24.3	-37.7	27.6	541.2	614.6	229.7	18.1	1.000122
26000.0	378.7	-25.7	-38.2	29.8	533.1	612.9	226.8	17.2	1.000120
26500.0	370.9	-27.1	-38.8	32.0	525.1	611.1	223.5	17.2	1.000118
27000.0	363.1	-28.5	-40.0	31.7	516.9	609.4	220.2	17.5	1.000116
27500.0	355.5	-29.8	-41.9	29.4	508.7	607.6	217.6	18.7	1.000114
28000.0	348.0	-31.0	-43.8	27.0	500.6	606.2	215.5	19.9	1.000112
28500.0	340.6	-32.3	-45.5	25.3	492.6	604.6	215.8	20.3	1.000110
29000.0	333.3	-33.7	-46.1	27.0	484.7	602.9	216.0	20.7	1.000109
29500.0	326.1	-35.0	-46.7	28.8	477.0	601.2	215.1	21.2	1.000107
30000.0	319.1	-36.3	-47.4	30.5	469.4	599.5	214.3	21.8	1.000105
30500.0	312.2	-37.6	-49.5	27.3	461.7	597.9	213.1	23.0	1.000103
31000.0	305.4	-39.0	12.4**	12.4**	454.3	596.1	211.9	24.2	1.000101
31500.0	298.7	-40.3	-41.3	-41.3	446.9	594.5	214.0	25.8	1.000100
32000.0	292.1	-42.4	-42.9	-42.9	438.9	593.1	216.7	27.5	1.000098
32500.0	285.6	-42.4	-42.9	-42.9	431.2	591.8	219.5	29.3	1.000096
33000.0	279.3	-42.9	-42.9	-42.9	422.4	591.2	222.2	31.0	1.000094

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78  
 ASCENSION NO. 321 0900 HRS MDT

UPPER AIR DATA  
 1430020321  
 WHITE SANDS  
 TABLE XI. (CONT)

GEOGRAPHIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE C	DEWPOINT DEGREES C	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
33500.0	273.0	-43.3			413.9	590.6	223.1	34.0	1.000092
34000.0	266.9	-44.5			406.5	589.1	223.1	37.6	1.000091
34500.0	260.9	-45.6			399.4	587.7	222.6	39.2	1.000089
35000.0	255.0	-46.7			392.3	586.2	221.7	39.5	1.000087
35500.0	249.2	-47.8			385.4	584.8	220.8	38.4	1.000086
36000.0	243.4	-49.0			378.3	583.3	219.8	36.3	1.000084
36500.0	237.8	-50.1			371.4	581.8	217.7	35.8	1.000083
37000.0	232.2	-51.3			364.6	580.3	215.2	36.5	1.000081
37500.0	226.8	-52.4			358.0	578.8	214.1	36.6	1.000080
38000.0	221.6	-53.5			351.5	577.3	213.6	36.3	1.000078
38500.0	216.4	-54.7			345.1	575.8	214.6	37.8	1.000077
39000.0	211.4	-55.8			338.8	574.3	215.8	39.7	1.000075
39500.0	206.4	-57.0			332.7	572.8	215.9	41.0	1.000074
40000.0	201.6	-58.1			326.7	571.3	215.3	41.9	1.000073
40500.0	196.8	-59.2			320.5	569.9	215.5	41.1	1.000071
41000.0	192.1	-60.3			314.3	568.4	216.5	38.6	1.000070
41500.0	187.5	-61.3			308.3	567.0	218.3	36.8	1.000069
42000.0	183.0	-62.4			302.4	565.6	221.7	36.5	1.000067
42500.0	178.5	-62.9			295.9	564.8	225.9	36.7	1.000066
43000.0	174.2	-62.4			287.9	563.5	233.4	39.0	1.000064
43500.0	170.0	-59.0			276.5	570.1	239.7	41.5	1.000062
44000.0	165.9	-57.6			268.2	571.9	244.4	43.2	1.000060
44500.0	162.0	-56.1			260.0	574.0	247.9	44.9	1.000058
45000.0	158.2	-54.3			251.9	570.3	247.8	45.4	1.000056
45500.0	154.5	-53.7			245.3	577.1	247.7	45.9	1.000055
46000.0	150.9	-52.0			237.8	579.3	247.7	46.1	1.000053
46500.0	147.5	-49.4			229.5	582.8	247.6	46.4	1.000051
47000.0	144.1	-49.1			224.0	583.1	248.5	43.6	1.000050
47500.0	140.7	-50.2			219.9	581.7	249.6	40.3	1.000049
48000.0	137.5	-51.2			215.8	580.3	251.0	38.3	1.000048

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 0900 HRS MDT  
 ASCENSION 1.0. 321

UPPER AIR DATA  
 14300203Z1  
 WHITE SANDS  
 TABLE XI. (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
48500.0	134.3	-52.3		211.8	579.0	252.5	37.0	1.000047	
49000.0	131.2	-53.4		207.9	577.6	253.5	35.9	1.000046	
49500.0	128.1	-54.4		204.1	576.2	252.7	35.3	1.000045	
50000.0	125.2	-55.5		200.3	574.7	251.8	34.7	1.000045	
50500.0	122.2	-56.0		196.1	574.1	250.0	32.3	1.000044	
51000.0	119.4	-56.1		191.5	574.0	247.6	29.5	1.000043	
51500.0	116.6	-56.1		187.1	574.0	245.0	25.8	1.000042	
52000.0	113.8	-57.2		183.5	572.5	242.3	20.0	1.000041	
52500.0	111.0	-58.4		180.1	570.9	237.5	14.3	1.000040	
53000.0	108.4	-59.7		176.8	569.2	234.2	12.1	1.000039	
53500.0	105.8	-60.9		173.6	567.6	231.3	10.6	1.000039	
54000.0	103.2	-62.1		170.4	566.0	229.5	10.8	1.000038	
54500.0	100.8	-63.3		167.3	564.3	230.8	14.6	1.000037	
55000.0	98.3	-64.4		164.1	562.8	231.6	18.4	1.000037	
55500.0	95.9	-65.5		160.9	561.4	230.0	19.2	1.000036	
56000.0	93.5	-66.6		157.7	559.9	228.1	19.6	1.000035	
56500.0	91.2	-67.6		154.6	558.5	226.1	19.6	1.000034	
57000.0	88.9	-67.8		150.9	556.2	223.8	19.2	1.000034	
57500.0	86.7	-68.1		147.3	557.9	221.5	19.0	1.000033	
58000.0	84.6	-68.3		143.8	557.6	219.6	20.1	1.000032	
58500.0	82.5	-68.5		140.4	557.3	217.9	21.2	1.000031	
59000.0	80.4	-68.8		137.0	557.0	217.1	20.5	1.000031	
59500.0	78.4	-69.0		133.8	556.7	216.9	18.8	1.000030	
60000.0	76.4	-69.2		130.6	556.3	216.7	16.9	1.000029	
60500.0	74.5	-69.2		127.3	556.3	217.6	14.0	1.000028	
61000.0	72.7	-68.3		123.6	557.6	218.8	11.0	1.000028	
61500.0	70.9	-67.4		120.0	558.8	214.9	8.2	1.000027	
62000.0	69.1	-66.6		116.6	559.9	204.6	5.6	1.000026	
62500.0	67.4	-65.8		113.3	561.0	175.3	3.5	1.000025	
63000.0	65.8			110.1	562.0	112.6	3.5	1.000025	

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 0900 HRS MDT  
 ASCENSION NO. 321

UPPER AIR DATA  
 143000Z0321  
 WHITE SANDS  
 TABLE XI. (CONT)

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
03500.0	64.1	-64.3	107.0	563.1	84.9	6.3	1.0000024	
04000.0	62.6	-63.6	104.0	564.0	91.6	8.1	1.0000023	
04500.0	61.1	-63.3	101.4	564.3	99.6	9.8	1.0000023	
05000.0	59.6	-63.1	98.8	564.7	108.0	11.0	1.0000022	
05500.0	58.1	-62.8	96.3	565.0	124.9	10.9	1.0000021	
06000.0	56.7	-62.6	93.8	565.3	140.6	11.8	1.0000021	
06500.0	55.3	-62.3	91.5	565.7	151.7	11.7	1.0000020	
07000.0	54.0	-62.1	89.1	566.0	162.2	11.3	1.0000020	
07500.0	52.7	-61.8	86.9	566.3	172.1	11.3	1.0000019	
08000.0	51.4	-61.6	84.7	566.7	174.7	11.1	1.0000019	
08500.0	50.2	-61.3	82.5	567.0	177.4	10.9	1.0000018	
09000.0	49.0	-60.8	80.3	567.7	170.6	9.6	1.0000018	
09500.0	47.8	-60.2	78.2	568.5	149.4	7.9	1.0000017	
10000.0	46.6	-59.6	76.1	569.3	122.8	7.7	1.0000017	
10500.0	45.5	-59.0	74.1	570.1	111.8	8.2	1.0000016	
11000.0	44.5	-58.4	72.1	570.9	106.1	8.6	1.0000016	
11500.0	43.4	-57.7	70.2	571.8	101.0	9.2	1.0000016	
12000.0	42.4	-57.1	68.3	572.7	112.5	9.1	1.0000015	
12500.0	41.4	-56.4	66.5	573.5	125.0	9.5	1.0000015	
13000.0	40.4	-55.8	64.7	574.4	132.5	10.2	1.0000014	
13500.0	39.5	-55.1	63.0	575.3	103.2	11.7	1.0000014	
14000.0	38.5	-54.9	61.5	575.6	84.2	15.3	1.0000014	
14500.0	37.6	-54.7	60.0	575.7	74.7	18.7	1.0000013	
15000.0	36.8	-54.6	58.6	575.9	72.4	17.9	1.0000013	
15500.0	35.9	-54.5	57.2	576.1	69.9	17.2	1.0000013	
16000.0	35.1	-54.3	55.8	576.3	71.0	15.1	1.0000012	
16500.0	34.2	-54.2	54.5	576.5	84.1	10.9	1.0000012	
17000.0	33.4	-54.0	53.2	576.7	109.9	7.9	1.0000012	
17500.0	32.7	-53.9	51.9	576.8	133.3	7.3	1.0000012	
18000.0	31.9	-53.8	50.7	577.0	139.5	7.2	1.0000011	

STATION ALTITUDE 3989.00 FLEET MSL  
 23 MAY 78 0900 HRS MDT  
 ASCENSION 140. 321

UPPER AIR DATA  
 1430020321  
 WHITE SANDS  
 TABLE XI. (CONT)

GEOGRAPHIC COORDINATES  
 32°40'04.3 LAT DEG  
 106°37'03.3 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
78500.0	31.2	-53.6	49.5	577.2	145.7	7.2	1.000011	
79000.0	30.4	-53.5	48.3	577.4	150.0	7.1	1.000011	
79500.0	29.7	-53.3	47.1	577.7	148.9	6.6	1.000010	
80000.0	29.1	-52.9	46.0	578.1	147.7	6.1	1.000010	
80500.0	28.4	-52.6	44.8	578.5	146.2	5.7	1.000010	
81000.0	27.7	-52.3	43.7	579.0	151.4	5.8	1.000010	
81500.0	27.1	-52.0	42.7	579.4	156.2	6.1	1.000010	
82000.0	26.5	-51.6	41.6	579.8	160.7	6.3	1.000009	
82500.0	25.9	-51.3	40.6	580.2	171.0	6.7	1.000009	
83000.0	25.3	-51.0	39.6	580.7	182.1	7.4	1.000009	
83500.0	24.7	-50.7	38.7	581.1	191.1	8.3	1.000009	
84000.0	24.1	-50.3	37.7	581.5	197.7	8.5	1.000009	
84500.0	23.6	-50.0	36.8	581.9	204.0	7.9	1.000008	
85000.0	23.0	-49.7	35.9	582.4	211.3	7.4	1.000008	
85500.0	22.5	-49.4	35.0	582.8	219.1	7.0	1.000008	
86000.0	22.0	-49.0	34.2	583.2	225.7	6.5	1.000008	
86500.0	21.5	-48.7	33.4	583.6	233.1	6.2	1.000007	
87000.0	21.0	-48.4	32.6	584.1	241.2	6.0	1.000007	
87500.0	20.5	-46.1	31.8	584.5	243.8	6.1	1.000007	
88000.0	20.1	-47.7	31.0	584.9	245.4	6.4	1.000007	
88500.0	19.6	-47.3	30.2	585.5	247.0	6.6	1.000007	
89000.0	19.2	-46.8	29.5	586.2	248.9	6.8	1.000006	
89500.0	18.7	-46.3	28.8	586.8	251.1	7.0	1.000006	
90000.0	18.3	-45.8	28.1	587.5	253.1	7.3	1.000006	
90500.0	17.9	-45.3	27.4	588.1	255.2	7.7	1.000006	
91000.0	17.5	-44.8	26.7	588.7	257.4	8.9	1.000006	
91500.0	17.1	-44.3	26.0	589.4	259.1	10.2	1.000006	
92000.0	16.7	-43.8	25.4	590.0	260.5	11.4	1.000006	
92500.0	16.4	-43.3	24.8	590.7	253.2	11.0	1.000006	
93000.0	16.0	-43.2	24.2	590.8	243.8	10.6	1.000005	

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 0900 HRS MDT  
 ASCENSION NO. 321

UPPER AIR DATA  
 1430020321  
 WHITE SANDS  
 TABLE XI. (CONT)

GEOGRAPHIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
93500.0	15.6	-43.1			23.7	590.9	233.8	10.5	1.000005
94000.0	15.3	-43.1			23.2	590.9	224.8	10.7	1.000005
94500.0	15.0	-43.0			22.6	591.0	226.0	11.5	1.000005
95000.0	14.6	-43.0			22.1	591.1	227.1	12.2	1.000005
95500.0	14.3	-42.9			21.6	591.1	228.0	12.9	1.000005
96000.0	14.0	-42.9			21.2	591.2	229.9	13.6	1.000005
96500.0	13.7	-42.8			20.7	591.2	241.7	13.3	1.000005
97000.0	13.4	-42.8			20.2	591.3	253.5	13.6	1.000005
97500.0	13.1	-42.7			19.8	591.4	264.3	14.4	1.000004
98000.0	12.8	-42.7			19.3	591.4	273.4	15.5	1.000004
98500.0	12.5	-42.6			18.9	591.5	280.3	15.4	1.000004
99000.0	12.2	-42.6			18.5	591.5	287.2	15.5	1.000004
99500.0	12.0	-42.5			18.1	591.6	294.0	15.8	1.000004
100000.0	11.7	-42.5			17.7	591.7			1.000004
100500.0	11.4	-42.4			17.3	591.7			1.000004
101000.0	11.2	-42.4			16.9	591.8			1.000004
101500.0	10.9	-41.9			16.5	592.5			1.000004
102000.0	10.7	-41.4			16.1	593.1			1.000004
102500.0	10.5	-40.9			15.7	593.7			1.000003
103000.0	10.2	-40.4			15.3	594.3			1.000003
103500.0	10.0	-39.9			14.9	595.0			1.000003

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 76 0900 HRS MDT  
 ASCENSION NO. 321

MANDATORY LEVELS  
 1430020321  
 WHITE SANDS  
 TABLE XII.

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	TEMPERATURE CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
						DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4884.	22.0	5.4	34.	195.2	14.5	
800.0	6598.	19.1	-4.2	20.	213.7	14.8	
750.0	8402.	15.1	-8.2	19.	232.0	9.7	
700.0	10300.	10.5	-11.5	20.	209.1	8.1	
650.0	12300.	5.5	-10.9	29.	159.4	14.7	
600.0	14434.	•6	-8.5	50.	157.4	17.2	
550.0	16702.	-5.3	-13.4	53.	181.6	17.0	
500.0	19127.	-11.9	-20.9	47.	226.0	25.4	
450.0	21762.	-14.5	-34.6	16.	236.7	18.9	
400.0	24649.	-22.0	-37.0	24.	234.0	19.8	
350.0	27815.	-30.7	-43.3	28.	216.0	19.6	
300.0	31338.	-40.1			213.3	25.4	
250.0	35358.	-47.7			221.0	38.8	
200.0	40077.	-58.5			215.1	42.2	
175.0	42790.	-62.5			231.7	38.4	
150.0	46007.	-51.4			247.7	46.2	
125.0	49887.	-55.6			251.8	34.7	
100.0	54487.	-63.7			231.1	15.6	
80.0	58900.	-68.8			217.1	20.3	
70.0	61529.	-67.0			211.5	7.1	
60.0	64610.	-63.1			103.3	10.9	
50.0	68312.	-61.3			177.6	10.9	
40.0	72915.	-55.5			121.7	10.4	
30.0	78967.	-53.4			149.4	6.8	
25.0	82839.	-50.8			185.4	7.7	
20.0	87640.	-47.7			245.5	6.4	
15.0	93954.	-43.0			225.7	11.3	
10.0	102950.	-39.9					

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 1130 HRS MDT  
 ASCENSION NO. 322

SIGNIFICANT LEVEL DATA  
 143000Z 0322Z  
 WHITE SANDS  
 TABLE XIII.

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEWPNT DEGREES	CENTIGRADE	
876.1	3989.0	28.5	-1.6	14.0
847.1	4961.4	24.4	-7	19.0
800.3	6560.3	20.0	-2.3	22.0
788.3	706.7	19.1	-3.7	21.0
700.0	10303.6	10.3	-9.4	24.0
660.3	11888.8	6.5	-6.4	39.0
649.3	12341.6	5.9	-5.1	45.0
637.7	1286.9	5.8	-6.1	42.0
574.8	15585.3	-1.4	-11.5	46.0
500.0	19172.7	-11.2	-21.3	43.0
488.3	19709.9	-11.7	-32.4	16.0
460.3	21253.7	-13.1	-33.5	16.0
438.3	22474.8	-15.8	-35.2	17.0
400.0	24718.3	-21.4	-37.4	22.0
359.8	27253.2	-28.4	-37.7	40.0

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 1130 HRS MDT  
 ASCESSION NO. 322

UPPER AIR DATA  
 14300203ZC  
 WHITE SANDS  
 TABLE XIV.

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	CENTIGRADE	REL.HUM. PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
3989.0	876.1	28.5	-1.6	14.0	1009.4	677.4	180.0	9.9	1.000248	
4000.0	875.8	28.5	-1.5	14.1	1009.2	677.4	180.1	9.9	1.000248	
4500.0	860.7	26.3	-9	16.6	998.7	675.0	184.9	10.9	1.000247	
5000.0	846.0	24.3	-7	19.1	988.2	672.8	188.9	12.0	1.000245	
5500.0	831.2	22.9	-1.2	20.0	975.5	671.2	192.2	13.1	1.000242	
6000.0	816.8	21.6	-1.7	20.9	963.0	669.6	195.4	13.3	1.000238	
6500.0	802.6	20.2	-2.2	21.9	950.7	668.1	199.7	11.6	1.000235	
7000.0	788.5	19.1	-3.7	21.0	937.7	666.8	204.6	9.6	1.000230	
7500.0	774.4	17.8	-4.5	21.4	925.3	665.2	211.3	7.0	1.000226	
8000.0	760.6	16.4	-5.4	21.9	913.1	663.6	216.3	5.2	1.000222	
8500.0	747.0	15.0	-6.2	22.4	901.0	662.1	217.9	3.8	1.000218	
9000.0	733.7	13.8	-7.1	22.8	889.1	660.5	215.6	3.6	1.000215	
9500.0	720.6	12.4	-7.9	23.3	877.4	659.0	212.0	3.9	1.000211	
10000.0	707.7	11.1	-8.8	23.7	865.8	657.4	200.5	5.1	1.000208	
10500.0	695.0	9.8	-8.8	25.9	854.1	655.9	192.7	6.8	1.000205	
11000.0	682.3	8.6	-7.7	30.6	841.9	654.6	180.4	9.0	1.000204	
11500.0	669.8	7.4	-6.9	35.3	829.9	653.2	172.5	11.6	1.000202	
12000.0	657.6	6.4	-6.1	40.5	817.8	652.0	168.8	14.6	1.000201	
12500.0	645.5	5.9	-5.4	44.0	804.0	651.5	167.0	17.6	1.000199	
13000.0	633.6	5.3	-6.4	42.3	790.7	650.9	169.5	19.6	1.000195	
13500.0	621.7	4.0	-7.4	43.0	779.7	649.3	172.1	21.0	1.000191	
14000.0	610.1	2.7	-8.4	43.7	768.9	647.7	175.7	21.1	1.000187	
14500.0	598.6	1.4	-9.3	44.4	758.2	646.2	179.4	21.2	1.000184	
15000.0	587.6	.1	-10.3	45.2	747.7	644.6	183.4	21.2	1.000181	
15500.0	576.6	-1.2	-11.3	45.9	737.4	643.0	187.7	21.5	1.000177	
16000.0	565.6	-2.5	-12.6	45.7	727.0	641.4	192.5	22.1	1.000174	
16500.0	554.7	-3.9	-14.0	45.2	716.7	639.7	196.9	23.0	1.000170	
17000.0	544.1	-5.3	-15.4	44.8	706.6	638.0	200.9	24.7	1.000167	
17500.0	533.6	-6.6	-16.7	44.4	696.6	636.4	204.9	26.7	1.000164	
18000.0	523.3	-6.0	-18.1	44.0	686.8	634.7	209.5	29.5	1.000161	

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 1130 HRS MDT  
 ASCENSION NO. 322

UPPER AIR DATA  
 1430020322  
 WHITE SANUS  
 TABLE XIV. (CONT)

GEOGRAPHIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DFG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	513.2	-9.4	-19.4	43.6	677.2	633.0	214.2	1.000158
19000.0	503.4	-10.7	-20.8	43.1	667.6	631.4	219.6	1.000155
19500.0	493.6	-11.5	-26.2	28.2	656.7	630.4	224.9	1.000150
20000.0	483.8	-11.9	-32.6	16.0	645.0	629.8	230.3	1.000146
20500.0	474.3	-12.4	-32.9	16.0	633.5	629.2	234.7	1.000143
21000.0	465.0	-12.9	-33.3	16.0	622.1	626.6	239.0	1.000141
21500.0	455.8	-13.6	-33.9	16.2	611.7	627.7	240.0	1.000138
22000.0	446.7	-14.8	-34.5	16.6	602.1	626.3	240.6	1.000136
22500.0	437.8	-15.9	-35.2	17.1	592.7	625.0	238.7	1.000134
23000.0	429.0	-17.1	-35.6	18.2	583.6	623.5	236.0	1.000132
23500.0	420.4	-18.4	-36.1	19.3	574.6	621.9	231.1	1.000130
24000.0	411.9	-19.6	-36.6	20.4	565.8	620.4	226.5	1.000128
24500.0	403.6	-20.9	-37.1	21.5	557.1	618.9	222.0	1.000126
25000.0	395.3	-22.2	-37.2	24.0	548.6	617.2	218.1	1.000124
25500.0	387.1	-23.6	-37.0	27.6	540.2	615.5	216.9	1.000122
26000.0	379.1	-24.9	-37.1	31.1	532.0	613.8	213.0	1.000120
26500.0	371.3	-26.3	-37.2	34.7	523.9	612.1	210.1	1.000118
27000.0	363.6	-27.7	-37.5	38.2	516.0	610.4	207.6	1.000116

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 78 1130 HRS MDT  
ASCENSION NO. 322

MANDATORY LEVELS  
1430020322  
WHITE SANDS  
TABLE XV.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEGREE	DEGREE	CENTIGRADE	REL.HUM. PERCENT	WIND DATA		
							DEGREE	POINT	DIRECTION DEGREES(10) DEGREES(10)
850.0	4860.	24.8		-7	18.	187.9	11.7		
800.0	6586.	20.0		-2.4	22.	200.6	11.4		
750.0	8394.	15.4		-6.0	22.	217.5	4.1		
700.0	10293.	10.3		-9.4	24.	195.3	0.1		
650.0	12299.	5.9		-5.2	45.	167.2	16.5		
600.0	14437.	1.6		-9.2	44.	179.0	21.2		
550.0	16713.	-4.5		-14.0	45.	198.8	23.8		
500.0	19146.	-11.2		-21.3	43.	221.6	32.0		
450.0	21786.	-14.3		-34.3	16.	240.7	23.9		
400.0	24677.	-21.4		-37.4	22.	220.3	24.2		

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 78 1530 HRS MDT  
ASCENSION NO. 324

SIGNIFICANT LEVEL DATA  
1430020324  
WHITE SANDS  
TABLE XVI.

GEOGRAPHIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
873.3	3989.0	32.5	1.6	14.0
850.0	4780.9	28.2	2.4	19.0
832.3	5391.1	26.5	1.7	20.0
700.0	10261.8	12.8	-4.3	30.0
612.8	13885.5	2.6	-12.0	33.0
555.8	16452.9	-3.3	-20.0	26.0
531.3	17619.2	-6.2	-20.5	31.0
500.0	19170.2	-10.0	-28.1	21.0
422.3	23392.7	-17.5	-33.6	23.0
400.0	24717.7	-22.1	-34.9	30.0
372.3	26442.8	-25.5	-40.0	24.0

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 78 1530 HRS MDT  
ASCENSION NO. 324

UPPER AIR DATA  
1430020324  
WHITE SANUS  
TABLE XVII.

GEOGRAPHIC COORDINATES  
32°40.043 LAT DEG  
106°37.033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	SHEET OF WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	873.3	32.5	14.0	992.4	682.1	18.1
4000.0	873.0	32.4	14.1	992.2	682.0	18.1
4500.0	858.2	29.7	2.3	984.0	679.1	17.3
5000.0	843.6	27.6	2.2	974.1	670.7	16.7
5500.0	829.1	26.2	1.6	961.8	675.1	16.1
6000.0	814.6	24.8	1.2	949.5	673.5	15.6
6500.0	800.3	23.4	.7	937.3	671.9	14.6
7000.0	786.2	22.0	.1	925.3	670.3	13.6
7500.0	772.4	20.6	-.5	913.4	668.7	14.1
8000.0	758.9	19.2	-1.1	901.8	667.0	14.9
8500.0	745.6	17.8	-1.8	890.3	665.4	16.4
9000.0	732.5	16.4	-2.4	879.0	663.8	17.1
9500.0	719.6	15.0	-3.2	867.8	662.1	17.2
10000.0	707.0	13.6	-3.9	856.9	660.5	16.9
10500.0	694.4	12.2	-4.8	845.6	658.8	16.5
11000.0	681.7	10.8	-5.6	834.6	657.2	17.4
11500.0	669.2	9.4	-6.9	823.5	655.5	18.8
12000.0	657.0	7.9	-7.9	812.7	653.8	20.9
12500.0	645.0	6.5	-9.0	801.9	652.1	20.34
13000.0	633.2	5.1	-10.1	791.4	650.4	204.8
13500.0	621.6	3.7	-11.2	780.9	648.7	207.0
14000.0	610.1	2.3	-12.4	770.4	647.1	209.2
14500.0	598.6	1.2	-13.9	759.2	645.7	211.6
15000.0	587.4	.0	-15.4	748.1	644.3	214.1
15500.0	576.3	-1.1	-17.0	737.2	642.9	217.0
16000.0	565.5	-2.3	-18.6	726.5	641.5	219.5
16500.0	554.8	-3.4	-20.0	715.9	640.1	220.7
17000.0	544.2	-4.7	-20.2	705.5	638.6	221.8
17500.0	533.8	-5.9	-20.4	695.2	637.1	223.3
18000.0	523.4	-7.1	-22.3	685.0	635.6	225.0

STATION ALTITUDE 3989.00 FEET MSL  
 23 MAY 78 1530 HRS MDT  
 ASCENSION NO. 324

UPPER AIR DATA

1430020324

WHITE SANDS

TABLE XVII. (CONT)

GEOGRAPHIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	513.3	-8.4	-24.7	25.3	674.9	634.1	226.9	34.1
19000.0	503.5	-9.6	-27.2	22.1	665.0	632.6	229.4	30.4
19500.0	493.4	-10.6	-28.5	21.2	654.4	631.4	231.1	28.1
<00000.0	483.7	-11.5	-29.2	21.4	643.6	630.3	230.6	27.7
<05000.0	474.1	-12.4	-29.8	21.6	633.1	629.3	230.4	27.3
21000.0	464.7	-13.3	-30.4	21.9	622.7	628.2	229.6	27.0
21500.0	455.5	-14.1	-31.1	22.1	612.4	627.1	228.5	26.4
22000.0	446.5	-15.0	-31.7	22.3	602.4	626.0	226.1	25.5
<25000.0	437.7	-15.9	-32.4	22.6	592.5	624.9	222.7	26.7
<30000.0	429.0	-16.8	-33.0	22.8	582.8	623.9	219.2	29.8
23500.0	420.4	-17.9	-33.6	23.6	573.6	622.5	217.1	31.1
24000.0	411.9	-19.6	-34.1	26.2	565.8	620.4	215.4	31.3
24500.0	403.6	-21.3	-34.6	28.9	558.2	618.3	213.5	30.4
25000.0	395.3	-22.7	-35.7	29.0	549.6	616.7	211.3	29.3
25500.0	387.2	-23.6	-37.2	27.3	540.5	615.4	209.2	31.0
26000.0	379.2	-24.6	-38.7	25.5	531.5	614.2	207.1	30.8

STATION ALTITUDE 3989.00 FEET MSL  
23 MAY 76 1530 HRS MDT  
ASCENSION NO. 324

MANDATORY LEVELS  
1430020324  
WHITE SANUS  
TABLE XVIII.

GEODETAIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	WIND SPEED KNOTS
850.0	4777.	28.2	2.4	19.	204.6	17.0
800.0	6524.	23.4	0.6	22.	192.7	14.6
750.0	8353.	18.3	-1.5	26.	180.5	16.0
700.0	10272.	12.8	-4.3	30.	196.2	16.6
650.0	12292.	7.1	-8.6	32.	203.5	22.2
600.0	14428.	1.3	-13.7	31.	211.3	27.1
550.0	16704.	-4.0	-20.1	27.	221.2	35.3
500.0	19143.	-10.0	-28.1	21.	230.4	29.2
450.0	21785.	-14.7	-31.5	22.	227.0	25.8
400.0	24670.	-22.1	-34.9	30.	212.6	30.0